

Name: _____

Date: _____

Exponential Growth Homework

1. **The Situation:** The membership to a rock climbing gym is growing by a factor of four each month due to additional advertising. If there are currently thirteen members, how many members will there be in three months?

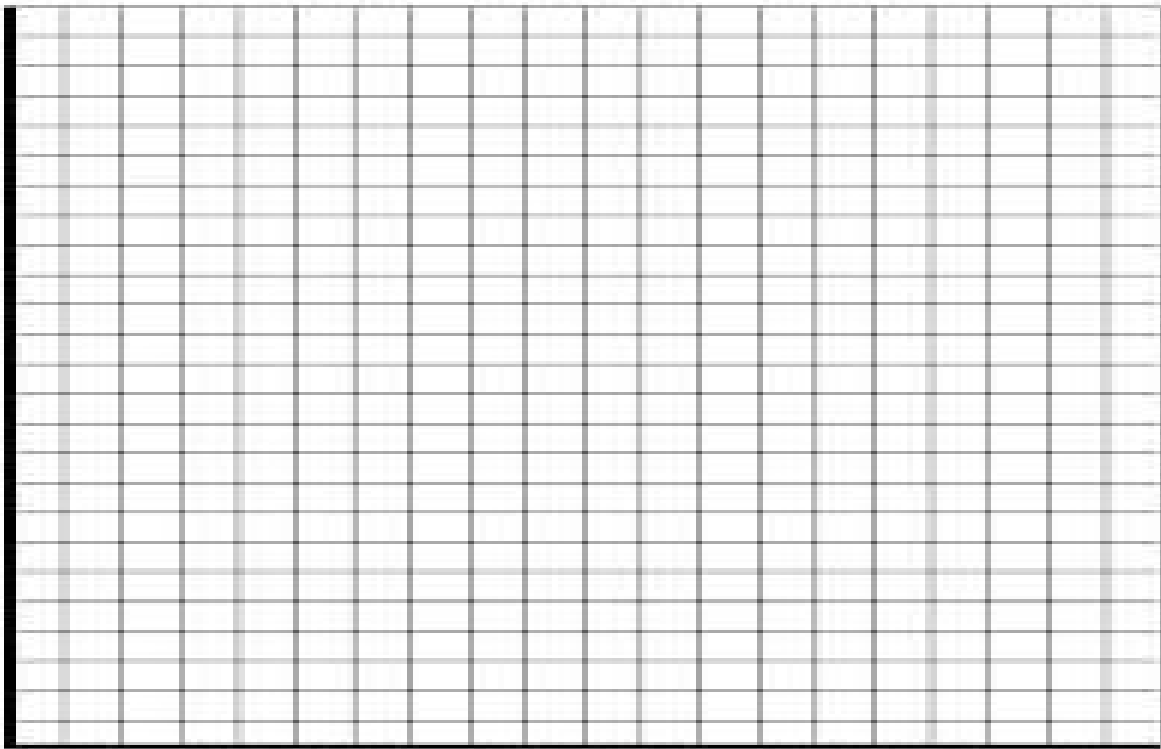
a. Write the general exponential growth formula.

b. Write the equation for THIS situation.

c. Fill in the table of values for the function. USE YOUR EQUATION.

x	0	1	2	3
y				

d. Graph the function. Label your axes.



e. How many members will there be in three months? _____

2. The Situation: Bruno Mars deposits his \$3,320,000 paycheck from the Super Bowl Halftime show into a bank with an annual interest rate of 1.9%. If the principal is compounded annually, how much money will Bruno Mars have in the bank after four years? (Assume he makes no deposits or withdrawals.)

a. Write the general exponential growth formula.

b. Write the equation for THIS situation.

c. Answer the question. Round to the nearest cent.

3. The Situation: Mr. Extravagant buys a leather sectional for \$8,945 on a furniture store's credit card. He doesn't have to pay any money or interest until January 2015. In 2015, however, the credit card begins compounding interest monthly at an annual interest rate of 16.4%. Assuming Mr. Extravagant puts no money toward this purchase, how much total money will he owe by the end of May 2015?

a. Write the general exponential growth formula.

b. Write the equation for THIS situation.

c. Answer the question. Round to the nearest cent.

4. Please answer as specifically as possible. Use complete sentences and algebraic terms. Avoid vague words.

If a bank compounds interest daily and has an annual interest rate of 6.8%, what interest rate should you use to calculate the interest for 2016? Explain how you arrived at your answer and leave the interest rate as a percent.
